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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,114	04/09/2001	Hajime Kimura	SEL 249	2293

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EXAMINER

AGGARWAL, YOGESH K

ART UNIT	PAPER NUMBER
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2615

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/829,114	KIMURA, HAJIME	
	Examiner	Art Unit	
	Yogesh K Aggarwal	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-66 is/are pending in the application.
- 4a) Of the above claim(s) 4,6,7,15-34,37,39,40,42-56,59-61 and 63-65 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,9-14,35,41,57 and 66 is/are rejected.
- 7) ☒ Claim(s) 5,8,36,38,58 and 62 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Drawings

1. Figures 2-10 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings (figures 1-37) are objected to because numbers and references characters are not plain and legible, legends are poor and numbers, letters and reference characters must be at least .32 cm (1/8 inch) in height. 37 CFR 1.8(p)(3). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the

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examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Marked-up Drawings" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 9, 35, 36, 57 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Ohzu et al. (US PG-PUB # 2002/0167601).

[Claim 1]

Applicant's admitted prior art teaches a semiconductor device (figure 8) comprising an amplifying transistor (801), a biasing transistor (802), an amplifying side power source line (803); a biasing side power source line (804); a bias signal line (802). Applicant's admitted prior art discloses in figure 8 a drain terminal of the amplifying transistor being connected to the amplifying side power source line (803), a source terminal of the biasing transistor is connected

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to the biasing side power source line (804), a source terminal of the amplifying transistor (801) is connected to a drain terminal of the biasing transistor, a gate terminal (V_b) of the biasing transistor (802) is connected to the bias signal line, a gate terminal of the amplifying transistor (801) serves as an input terminal (V_{in}), and a source terminal of the amplifying transistor (801) serves as an output terminal (V_{out} , Paragraphs 24 and 25) except an electric discharging transistor and an electric discharging power source line wherein one of the output terminal and the electric discharging power source line is connected to a source terminal of the electric discharging transistor while the other thereof is connected to a drain terminal of the electric discharging transistor. However Ohzu et al. teaches an electric discharging transistor (figure 5, element 38-1) and an electric discharging power source line wherein the output terminal is connected to a power source line and the electric discharging power source line is connected to a drain terminal of the electric discharging transistor (38-1) in order to charge/discharge the capacitor (Paragraph 186). Therefore taking the combined teachings of Applicant's admitted prior art and Ohzu, it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have an electric discharging transistor and an electric discharging power source line wherein one of the output terminal and the electric discharging power source line is connected to a source terminal of the electric discharging transistor while the other thereof is connected to a drain terminal of the electric discharging transistor. The benefit of doing so would be reduce image lag or after image as compared to conventional case as taught in Ohzu (Paragraph 186).

[Claim 2]

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Applicant's admitted prior art teaches a load capacitance (805) wherein one terminal of the load capacitance is connected to the output terminal (V_{out}), and the other terminal of the load capacitance is connected to a load capacitance power source line (806).

[Claim 3]

Ohzu teaches the electric discharging power source line (37-1) is connected to the biasing side power source line (36-1).

[Claim 9]

The combination of applicant's admitted prior art and Ohzu teach that the amplifying transistor (801), the biasing transistor (802), and the electric discharging transistor (37-1) are transistors having the same polarity (same symbols).

[Claims 35 and 57]

These are method claims corresponding to apparatus claim 1 wherein the discharging transistor (37-1) as taught in Ohzu et al. is used to perform a discharge inherently only when the discharging transistor is in a conductive state.

[Claim 36]

This is a method claim corresponding to apparatus claim 2. Therefore it has been analyzed and rejected based upon apparatus claim 2.

[Claim 66]

See claim 9.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohzu et al. (US PG-PUB # 2002/0167601) in view of Silver et al. (US Patent # 6,690,842).

[Claims 10-14]

Ohzu et al. teaches the limitations of claim 1 and the semiconductor device can be used in a camera (Also read as a computer or portable communication terminal, Paragraph 5) but fails to teach other devices like X-ray and a scanner. However Silver et al. teaches that for forming digital images a number of devices like a digital camera, line-scan scanners, X-ray devices such as CT scanners can be used (col. 1 lines 15-20). Therefore taking the combined teachings of Ohzu and Silver, it would have been obvious to one skilled in the art at the time of the invention to have been motivated to use the semiconductor device of Ohzu into other devices like X-ray and a scanner. The benefit of doing so would be a reduction in cost of manufacture because the same imaging sensor might be used in a number of devices.

Allowable Subject Matter

7. Claims 5, 8, 36, 38, 58 and 62 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: As for claim 5, the prior art fails to teach or suggest fairly wherein an absolute value of a voltage between a gate and a source of the biasing transistor is equivalent to a minimum value of an

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absolute value of a voltage between a gate and a source that is necessary for making the biasing transistor into a conductive state.

9. As for claim 8, the prior art fails to suggest fairly wherein when the semiconductor device has a plurality of biasing transistors, an absolute value of a voltage between a gate and a source of the plurality of biasing transistors is equivalent to a minimum value of an absolute value of a voltage between a gate and a source that is necessary for making the entire plurality of biasing transistors into a conductive state.

10. Claims 36, 38, 58 and 62 are method claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yogesh K Aggarwal whose telephone number is (703) 305-0346. The examiner can normally be reached on M-F 9:00AM-5:30PM.

11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on (703) 308-9644. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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YKA

December 30, 2004


TUAN HO
PRIMARY EXAMINER